BRUHAT BANGALORE MAHANAGARA PALIKE

Project Name: Improvments Road From NH-7 to Sanjeevininagar up to Hebbal Sarovara Layout in Ward No 07 and Ward No 08 in Kodigehalli Sub division.

Detailed Project Report

September-2021

Project Cost - 100.00 Lakhs

TEJUS CONSULTANTS
CONSULTING ENGINEERS AND DESIGNERS
No.58 MIG, 6th Cross, 3rd Main
1st Stage, Basaveshwaranagar
Bangalore-560079
[080 - 23287532
email: tejusconsultants@gmail.com

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Chapter -1
INTRODUCTION

1. INTRODUCTION

- Bangalore is the capital city of the southern Indian state of Karnataka. It is the seventh largest city in India. It is also known as the Garden City because of its many beautiful gardens and parks. Though the origin of Bangalore is ancient, the present-day city was founded in the 16th century and has since continued to be an important administrative center. Because of the high concentration of IT industry, it also called the Silicon Valley of India. Bangalore is rated to one of the fastest growing cities in Asia with a current population of more than 6 million. During the last couple of decades, city has witnessed drastic increase in population, change in land use pattern of the city, life style of the people and their commuting habits and the revolutionary changes that has taken place in the automobile industry. This has contributed to the growth of vehicular traffic in an enormous way.
- Located approximately 950 meters above sea level in South India on the Deccan Plateau, Bangalore enjoys a salubrious climate throughout the year. The city boasts of spacious gardens, parks, tree-lined avenues, profusion of flowering trees, lakes and parks, earning it the sobriquet of "Garden City." The once-sedate cantonment settlement of the British has now spread way beyond the mud fort and the four towers constructed by Kempegowda in 1537. With its booming economy and fast paced lifestyle, the capital of Karnataka has metamorphosed from a sleepy Garden City into one of India's fastest growing cosmopolitan cities. Bangalore is a city of contrasts, going by several other aliases: India's Silicon Valley, Pub City, Shopper's Paradise, Garden City, Air-conditioned City, Gourmet's Delight, Pub Hopper's Paradise and Shopper's Hot Spot. The city not only plays host to several international information technology companies, public sector enterprises, defense organizations, and reputed educational and research institutions, but also lays claim to being the hub of India's emerging biotechnology industry. Bangalore has lots to offer - a rich cultural heritage, historic monuments, cultural centers, traditional arts and crafts stores, exotic cuisine, and friendly people. Amusement parks, country clubs, resorts, golf courses, cyber cafes, pubs, discos, bowling alleys, billiard halls, pool parlours, bustling shopping malls, high-rise apartments and sophisticated hotels together form the new face of Bangalore. Infotainment, entertainment, science and technology parks and wildlife safari parks all merge into a vibrant, richly textured modern metropolis. Today, from a pensioner's paradise, it has transformed into one of the most sought after destination for young people chasing their dreams in IT, BPO, Biotechnology or knowledge management. Surrounded by weekend getaways, Bangalore makes an ideal hub for visitors who want to travel to the many hill stations and coastal towns of South India. Bangalore is also well connected by road, rail and airways to all major metros and cities in the country.

- The combined effect of all these on the road network of Bangalore is delay and congestion beyond tolerable limits. Vehicular conflicts at the intersections are being eliminated by traffic signals but at the expense of delays and long queues. The peak hour has spread over a longer period of time, since there are no perceptible capacity augmentation / conflict reduction measures.

- **Project Location**

- *The Main Purpose Project is Construction of Concrete Road and RCC Drain in Ward No 08 and Ward No 07. The Project area is Near Amco layout and Sanjeevininagara Kodigehalli Bangalore City.*

- **Role of Microsoft Excel** in Cost Estimation Excel is a typical spreadsheet which is nowadays widely used in cost estimation and also sometimes for planning purposes. Excel has various inbuilt calculation tools which can be used for complex calculation. Apart from that one can also input one's own formula for special calculations. The user interface is very friendly and easy to use. There are around Rows: 1,048,576 Columns: 16,384, which makes it easier for the user to enter a large amount of data into a single spreadsheet. Also there are features like the auto correct which make changes to the entire document if there is an error in inputting an entry. This makes the job the less redundant and easier for the Estimator. The key objective of cost estimation is to arrive at an accurate cost and schedules so as to avoid schedule slips and cost overruns. Cost estimation goes beyond preparing approx. costs and helps in preparing schedules, manage human resource, support assessment and decision making. The wide range of topics in cost estimation represents the crossing of various fields such as project management, business management and engineering. Cost estimation recognizes and pays attention to the relationship between cost and physical dimension of what is being built. In a construction project there are several types of estimators such as building estimator, electrical estimator, quantity surveyor etc. The work of an estimator is very important because they help in planning, managing the project cost, investment appraisal, risk analysis etc. Estimators also help in budgeting, planning and monitoring a project.

Location Key map Provided in **Annexure Key Map**.

M/s. TEJUS CONSULTANTS is entrusted by BBMP to carrying out the work of Preparation of Detailed Estimate and Report for the above said works.

- **Scope of Work**

The Scope of Services of the Consultancy includes the Following:

- Providing of Detailed Cost Estimate of Concrete Road and RCC Drain
- Providing Detailed Drawing RCC Drain.

- Frequently meet with the Engineers to update them on the progress of the project.
- Monitor and interpret technical designs and drawings, ensuring they are applied correctly.
- Systematic manner of Work Going on Site.
- Provide technical advice and solve any on-site problems that occur

Chapter -2
PHYSICAL CHARACTERISTICS

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2. PHYSICAL CHARACTERISTICS

General

- Investigations / studies have been carried out along the Project Area. Physical characteristics of the Site and Surrounding area are as follows. The Main Purpose Project is Construction of Compound Wall and RCC Drain in Ward No 08. The Project area is Near Amco layout, Kodigehalli Bangalore City.

- **Proposed Concrete Road and RCC Drain**

The Project includes is Construction of Concrete Road and RCC Drain in Ward No 08 and Ward No 07. A good drainage system should prevent the following ill-effects of excess surface water and of ground water on the pavement and on the subgrade. Road drainage includes the removal or control of surface water and subsurface water away from the road surface and the subgrade that support it, one part of the rainwater flows to the ground or road surface, while the other part flows into the ground and reaches the groundwater table, raising its level.

Salient Features Of the RCC Drain:-

- Reduction of the strength of the pavement Effective stepped planning for use of terraces at different levels.
- Reduce the Soil erosion around the pavement.
- Road drainage maintains the surface of the road and its foundation as dry as possible with water
- To keep the road surface with dry.
- Size of RCC Drain is 0.6m vent, wall thickness is 0.15m and Wall height is 0.6m.
- Total Length of RCC Drain 418m.and Precast slab of 100mm thick.
- 1 RCC Culvert of 10m and Precast slab of 250mm thick

Salient Features Of the Concrete Road:-

- Life span of such road is more.
- Such roads provide an impervious layer.cement
- Cement concrete roads are strong and durable and are unaffected much by weathering agencies.
- They give good visibility at night.

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- Cement concrete roads provide dustless and sanitary surface.
- Cement concrete roads does not develop corrugations and hence it grants noiseless surface.
- It can be designed more accurately for load distribution.
- Cement concrete roads is practically unaffected by weather and temperature.
- It is possible to make use of old concrete road as foundation for new concrete road or for bituminous road.
- Concrete Road Length is 325 m and Average Width is 4.5 m.
- Road Cut is about 90m and Average width is about is 1.5m.

5. PROJECT COST:

Accordingly, an estimate for the above work is prepared for Rs 1, 00, 00,000 i.e, One Crore Only.

Rate Analysis of each of the item has been prepared by adopting schedule of rates of PW, P&IWTD Bangalore circle of the year 2018-2019. Detailed cost estimate has been prepared for the project.

The provisions made in the estimate are minimum, essential and are required as per site condition. The total cost of the project is Rs 1,00,00,000.

Chapter – 3
COST ESTIMATES

3. COST ESTIMATES

➢ **Detailed Cost Estimate**

Detailed cost Estimate has been worked out based on detailed engineering design.

➢ **General**

Cost Estimate is an important part of the Report as it provides vital input to financial evaluation of the project.

➢ **Basic rates**

As part of Report, Rate Analysis of each of the item has been prepared by adopting PW, P & IWTD SR 2018 – 19, Bangalore Circle. The rates as given in PW, P & IWTD SR are to be enhanced by 6% and 8% for additional weightages for the works to be executed under extra ordinary conditions for Bangalore Metropolitan Limits. Items not covered in NHSR / PW, P & IWTD SR have been based on market rates.

➢ **DPR Preparation, Project Management and Quality Control**

Provision of 1 % of Construction Cost has been made towards DPR Preparation and 1% for PMC Charges and third party inspection.

➢ **Project Cost**

The total project cost for the proposed work is 100.00Lakh.

Detailed Cost Estimate is enclosed in **Annexure: Detailed Cost Estimate**

Improvments Road From NH-7 to Sanjeevininagar up to Hebbal Sarovara Layout in Ward No 07 and Ward No 08 in Kodigehalli Sub division.

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BRUHAT BANGALORE MAHANAGARA PALIKE

Project Name: Improvments Road From NH-7 to Sanjeevininagar up to Hebbal Sarovara Layout in Ward No 07 and Ward No 08 in Kodigehalli Sub division.

								Est Cost:	100.00 Lakhs
Sl. No.	Description of work	Unit	No.	Length m	Breadth m	Depth m	Quantity	Rate in Rs.	Amount in Rs.
1	Removing & Refixing Stone slabs of drains and Pointing in C.M(1:3) (P.No.25, I.No.5.33 of PW, P&IWTD SR 2018-19)								
	Basic Rate	105.00							
	6% Area Weightage	6.30							
	Total	111.30							
	New RCC Drain	Sqm							
	Shanthivana 2nd Cross Road		2	416.00	0.90		748.80		
	Sanjeevininagar								
	8th Cross Road		2	185.00	0.90		333.00		
	10th Cross Road		2	100.00	0.90		180.00		
	Cross Road		2	40.00	0.90		72.00		
	Consider 20% and Missing Slabs						-133.38		
							1,200.42	111.30	133,607.00
2	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neatly dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.142, I.No.19.1 of PW, P&IWTD SR 2018-19)								
	Basic Rate	130.00							
	6% Area Weightage	7.80							
	Total	137.80							
		Cum							
	New RCC Drain								
	Shanthivana 2nd Cross Road		2	416.00	1.10	0.90	823.68		
			2	97.50	1.10	0.90	193.05		
	New RCC Culvert		1	10.00	1.40	0.90	12.60		
	Sanjeevininagar								
	Desilt								
	8th Cross Road		1	185.00	0.45	0.50	41.63		
	10th Cross Road		1	100.00	0.45	0.50	22.50		
							1,093.46	137.80	150,678.00
3	Providing and laying in position plain cement concrete of mix 1:3:6 with OPC @ 220kgs, with crushed 40mm and down size graded granite metal coarse aggregates @0.89cum and fine aggregates @0.46cum, in foundation mechanically mixed, placed in foundation and compacted by vibration inlcuding curing for 14 days including cost of all materials labour, HOM curing, form works, scaffolding and centering complete as per specification . (Pg.No.222, It.27.18)								
	Basic Rate	5,115.00							

Sl. No.	Description of work	Unit	No.	Length m	Breadth m	Depth m	Quantity	Rate in Rs.	Amount in Rs.
	3.6 x 103.69	373.28							
	Sub Total	5,488.28							
	6% Area Weightage	329.30							
	Total	5,817.58							
		Cum							
	New RCC Drain								
	Shanthivana 2nd Cross Road		2	416.00	1.10	0.15	137.28		
			2	97.50	1.10	0.15	32.18		
	New RCC Culvert		1	10.00	1.40	0.15	2.10		
	Road Work								
	Sanjeevininagar								
	8th Cross Road		1	185.00	4.00	0.15	111.00		
	10th Cross Road		1	100.00	4.00	0.15	60.00		
	Cross Road		1	40.00	4.50	0.15	27.00		
	Road Cut								
	Cross Road		1	55.00	1.80	0.15	14.85		
	Cross Road		1	35.00	1.00	0.15	5.25		
							389.66	5817.58	2,266,850.00
4	Providing and laying plain/reinforced cement concrete for side drains using M20 nominal mix concrete with OPC at 300 kgs. with 20mm and down size granite metal coarse aggregates at 0.69 cum and fine aggregates at 0.43 cum machine mixed, well compacted for walls and bottom including centering, shuttering, cost of materials, HOM of machinery, curing etc., complete excluding cost of steel as per MORTH specification No. 1500, 1700, 2200. including cost of materials, labour, HOM complete as per specificationsdo-Wall and Bottom Thickness 15cm (I No-37.59.1,P No-271)								
	Basic Rate	6,670.00							
	6 x 103.69	622.14							
	Sub Total	7,292.14							
	6% Area Weightage	437.53							
	Total	7,729.67							
	New RCC Drain	Cum							
	Shanthivana 2nd Cross Road								
	Raft		2	416.00	0.90	0.15	112.32		
			2	97.50	0.90	0.15	26.33		
	Side Wall		4	416.00	0.15	0.60	149.76		
			4	97.50	0.15	0.60	35.10		
	New RCC Culvert								
	Raft		1	10.00	1.20	0.20	2.40		
	Side Wall		2	10.00	0.20	0.60	2.40		
							328.31	7729.67	2,537,689.00
5	KSRRB M2200-6. Providing TMT Bars Fe 500 steel reinforcement for R.C.C. work including straightening, cutting, bending, hooking, placing in postion, lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM complete as per specification.(I.NO 28.8.2 Page no 229, SR 2018-19)								
	Basic Rate / Issue Rate	85,468.00							
	6% Area Weightage	5,128.08							

Sl. No.	Description of work	Unit	No.	Length m	Breadth m	Depth m	Quantity	Rate in Rs.	Amount in Rs.
	Total	90,596.08							
	Consider 60kg /cum for RCC Drain Quantity	Tonne		323.51	0.060	--	19.41		
	Consider 80kg /cum for Culvert	Tonne		4.80	0.080	--	0.38		
							19.79	90596.08	1,793,286.00
6	Providing and fixing RCC Precast cover slab of 100mm thick for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Data Rate	2,237.00							
	New RCC Drain	Sqm							
			2	97.50	0.90		175.50		
							175.50	2237.00	392,594.00
7	Providing and fixing RCC Precast cover slab of 250mm thick for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Data Rate	5,418.00							
	New RCC Culvert	Sqm	1	10.00		1.20	12.00		
							12.00	5418.00	65,016.00
8	KSRRB M200-24. Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials stacking serviceable and unserviceable materials seperately complete as per specifications. MORTH Specification No. 202 (P.No.140, I.No.18.47 of PW,P&IWTD SR 2018-19)								
	Basic rate	899.00							
	Loading and unloading with 8 lead (as per SR-2018-19)= 57+2.0x1.30x20 = 109	109.00							
	Sub Total	1,008.00							
	6% AW	60.48							
	Total	1,068.48							
		Cum							
	10th Cross Road		1	100.00	4.00	0.15	60.00		
	Cross Road		1	40.00	4.50	0.15	27.00		
							87.00	1068.48	92,958.00
9	KSRRB M300-14. Excavation for roadwork in all types of soil by mechanical means including cutting and loading to tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transportation with a lead of 1.00 km and complete as per specifications MORTH Specificatio MORTH Specification No.301Loading and unloading with 10km lead= (I No-19.14,P No-143)								
	Basic rate	41.00							
	Loading and unloading with 8 lead (as per SR-2018-19)= 57+2.0x1.28x20 = 108.2	108.20							

Sl. No.	Description of work	Unit	No.	Length m	Breadth m	Depth m	Quantity	Rate in Rs.	Amount in Rs.
	Sub Total	149.20							
	6% AW	8.95							
	Total	158.15							
		Cum							
	8th Cross Road		1	185.00	4.00	0.20	148.00		
	10th Cross Road		1	100.00	4.00	0.20	80.00		
	Cross Road		1	40.00	4.50	0.20	36.00		
	Road Cut								
	Cross Road		1	55.00	1.80	0.20	19.80		
	Cross Road		1	35.00	1.00	0.20	7.00		
							290.80	158.15	45,991.00
10	Constructing un-reinforced, plain cement concrete for pavements using Grade concrete M30 with OPC at 360 kg/cum and coarse aggregate 0.69cum, fine aggregate 0.46cum. over a prepared base with OPC coarse aggregate at 0.69 cum, fine aggregates at 0.46 cum,Coarse and fine aggregate conforming to IS:383-2016, with Superplastizer at 3 lts conforming to IS 9103-2008. mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per drawing). & Spreading the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished with floaters in a continuous operation including provision of contraction, expansion, construction and longitudinal joints,including groove cutting charges, joint filler, separation membrane of impermiable plastic sheet of 125 micron, sealant primer, joint sealant, admixtures as approved, curing compound, finishing to lines and grades, textured with texturing machine, and curing including cost of all materials, labour,hire charges of machineries,all lead & lift charges etc., complete as per specifications. (P.No-182,I No-22.6.1)								
	Basic rate	4916.00							
	7.2*103.69	746.57							
	Sub Total	5662.57							
	6% AW	339.75							
	Sub Total	6002.32							
		Cum							
	8th Cross Road		1	185.00	4.00	0.15	111.00		
	10th Cross Road		1	100.00	4.00	0.15	60.00		
	Cross Road		1	40.00	4.50	0.15	27.00		
	Road Cut								
	Cross Road		1	55.00	1.80	0.10	9.90		
	Cross Road		1	35.00	1.00	0.10	3.50		
							211.40	6,002.32	1,268,891.00

Sl. No.	Description of work	Unit	No.	Length m	Breadth m	Depth m	Quantity	Rate in Rs.	Amount in Rs.
							Total Construction Cost		8,747,560.00
							12% GST to Construction Cost		1,049,707.20
							Cost towards Preparation of DPR 1%		100,000.00
							Cost towards PMC / Third Party inspection 1%		100,000.00
								Sub Total	9,997,267.20
							Miscellaneous and rounding off		2,732.80
								TOTAL	10,000,000.00

Certificate.

1 The workspot was inspected and work is found to be necessary.
2 The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3 The rates adopted based on the PWD SR, Bangalore circle for year 2018-19.
4 The provisions made in the estimate are necessary and essential.

For Tejus Consultants

Assistant Engineer
Byatarayanapura Division
B.B.M.P

Assistant Executive Engineer
Byatarayanapura Division
B.B.M.P

Executive Engineer
Byatarayanapura Division
B.B.M.P

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Draft Tender schedule

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BRUHAT BANGALORE MAHANAGARA PALIKE

Project Name: Improvments Road From NH-7 to Sanjeevininagar up to Hebbal Sarovara Layout in Ward No 07 and Ward No 08 in Kodigehalli Sub division.

Draft Tender Schedule

Item No	Description of work	Unit	Quantity	Rate in Rs.	
				In Figures	In Words
1	Removing & Refixing Stone slabs of drains and Pointing in C.M(1:3) (P.No.25, I.No.5.33 of PW, P&IWTD SR 2018-19)	Sqm	1,200.42	111.30	Rupees One Hundred Eleven and Paise Thirty Only
2	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neately dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.142, I.No.19.1 of PW, P&IWTD SR 2018-19)	Cum	1,093.46	137.80	Rupees One Hundred Thirty Seven and Paise Eighty Only
3	Providing and laying in position plain cement concrete of mix 1:3:6 with OPC @ 220kgs, with crushed 40mm and down size graded granite metal coarse aggregates @0.89cum and fine aggregates @0.46cum, in foundation mechanically mixed, placed in foundation and compacted by vibration inlcuding curing for 14 days including cost of all materials labour, HOM curing, form works, scaffolding and centering complete as per specification . (Pg.No.222, It.27.18)	Cum	389.66	5,817.58	Rupees Five Thousand Eight Hundred Seventeen and Paise Fifty Five Paise Only
4	Providing and laying plain/reinforced cement concrete for side drains using M20 nominal mix concrete with OPC at 300 kgs. with 20mm and down size granite metal coarse aggregates at 0.69 cum and fine aggregates at 0.43 cum machine mixed, well compacted for walls and bottom including centering, shuttering, cost of materials, HOM of machinery, curing etc., complete excluding cost of steel as per MORTH specification No. 1500, 1700, 2200. including cost of materials, labour, HOM complete as per specificationsdo-Wall and Bottom Thickness 15cm (I No-37.59.1,P No-271)	Cum	328.31	7,729.67	Rupees Seven Thousand Four Hundred Twenty Two and Paise Ninety Nine Only
5	KSRRB M2200-6. Providing TMT Bars Fe 500 steel reinforcement for R.C.C. work including straightening, cutting, bending, hooking, placing in postion, lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM complete as per specification.(I.NO 28.8.2 Page no 229, SR 2018-19)	Tonne	19.79	90,596.08	Rupees Ninty Thousand Five Huandred Ninty Six and Eight Paise Only
6	Providing and fixing RCC Precast cover slab of 100mm thick for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)	Sqm	175.50	2,237.00	Rupees Two Thousand Two Hundred Thirty Seven Only

7	Providing and fixing RCC Precast cover slab of 250mm thick for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)	Sqm	12.00	5,418.00	Rupees Five Thousand Four Hundred Eighteen Only
8	KSRRB M200-24. Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials stacking serviceable and unserviceable materials seperately complete as per specifications. MORTH Specification No. 202 (P.No.140, I.No.18.47 of PW,P&IWTD SR 2018-19)	Cum	87.00	1,068.48	Rupees One Thousand Sixty Eight and Paise Forty Eight Only
9	KSRRB M300-14. Excavation for roadwork in all types of soil by mechanical means including cutting and loading to tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transportation with a lead of 1.00 km and complete as per specifications MORTH Specificatio MORTH Specification No.301Loading and unloading with 10km lead= (I No-19.14,P No-143)	Cum	290.80	158.15	Rupees One Hundred Fifty Eight and Paise Fifteen Only
10	Constructing un-reinforced, plain cement concrete for pavements using Grade concrete M30 with OPC at 360 kg/cum and coarse aggregate 0.69cum, fine aggregate 0.46cum. over a prepared base with OPC coarse aggregate at 0.69 cum, fine aggregates at 0.46 cum,Coarse and fine aggregate conforming to IS:383-2016, with Superplastizer at 3 lts conforming to IS 9103-2008. mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per drawing). & Spreading the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished with floaters in a continuous operation including provision of contraction, expansion, construction and longitudinal joints,including groove cutting charges, joint filler, separation membrane of impermiable plastic sheet of 125 micron, sealant primer, joint sealant, admixtures as approved, curing compound, finishing to lines and grades, textured with texturing machine, and curing including cost of all materials, labour,hire charges of machineries,all lead & lift charges etc., complete as per specifications. (P.No-182,I No-22.6.1)	Cum	211.40	6,002.32	Rupees Five Thousand Six Hundred Thirty Four and Paise Thirty One Only

Contractor

Executive Engineer
Byatarayanapura Division
B.B.M.P

Chapter – 4
CONCLUSION

4. CONCLUSION

This project is the *Construction of Compound Wall and RCC Drain in Ward No 08. The Project area is Near Amco layout, Kodigehalli Bangalore City.* Using AutoCAD, and Microsoft. The Main Reason is for the construction of Rcc drain is to drain of the surface water from and to keep the road dry.

Compound wall is constructed to protect the military land and to restrict the unauthorized person Entry.

For the proposed Improvement Scheme, total Cost of the Project has been worked out as Rs. 100.00 Lakh.

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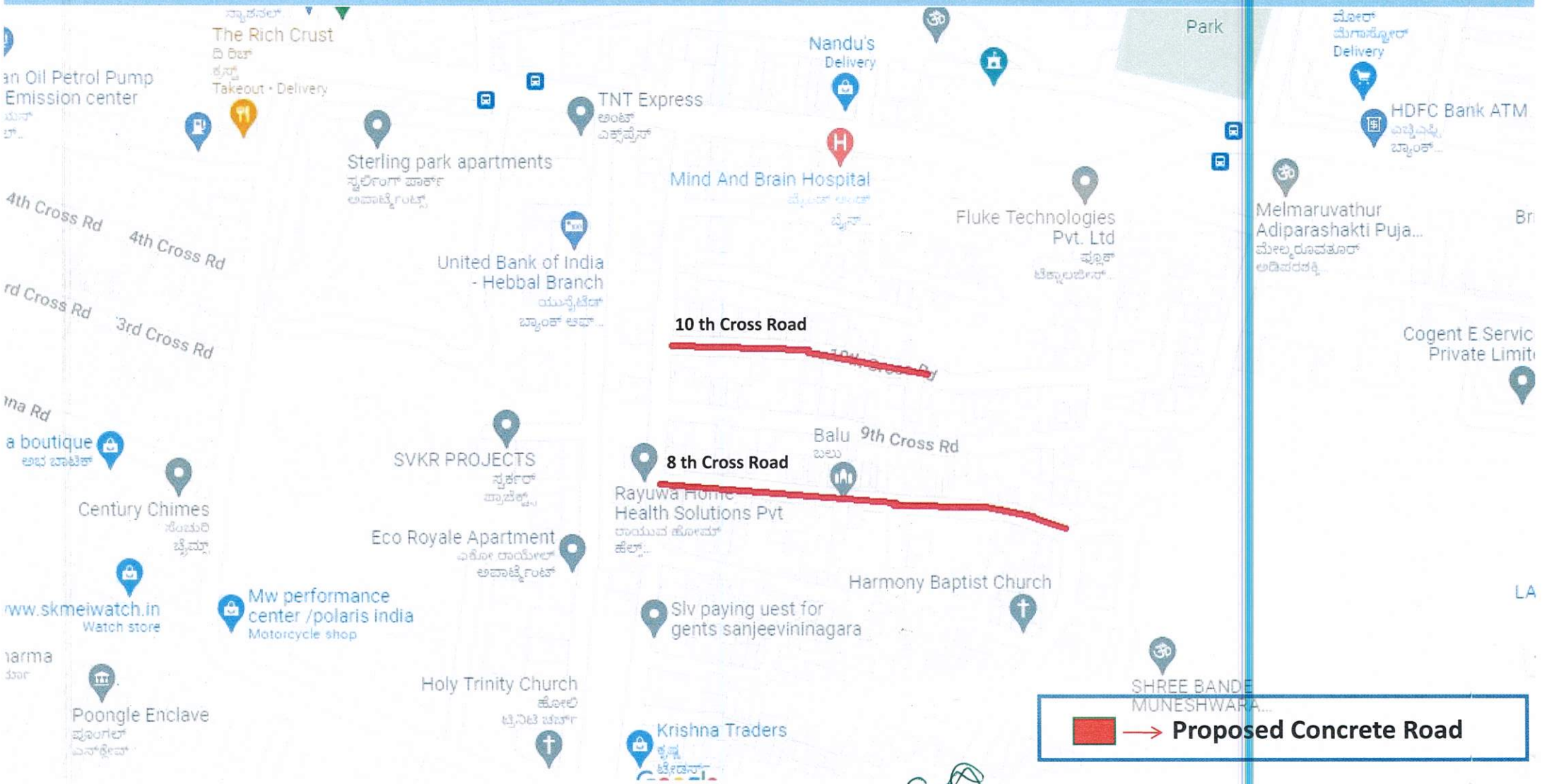
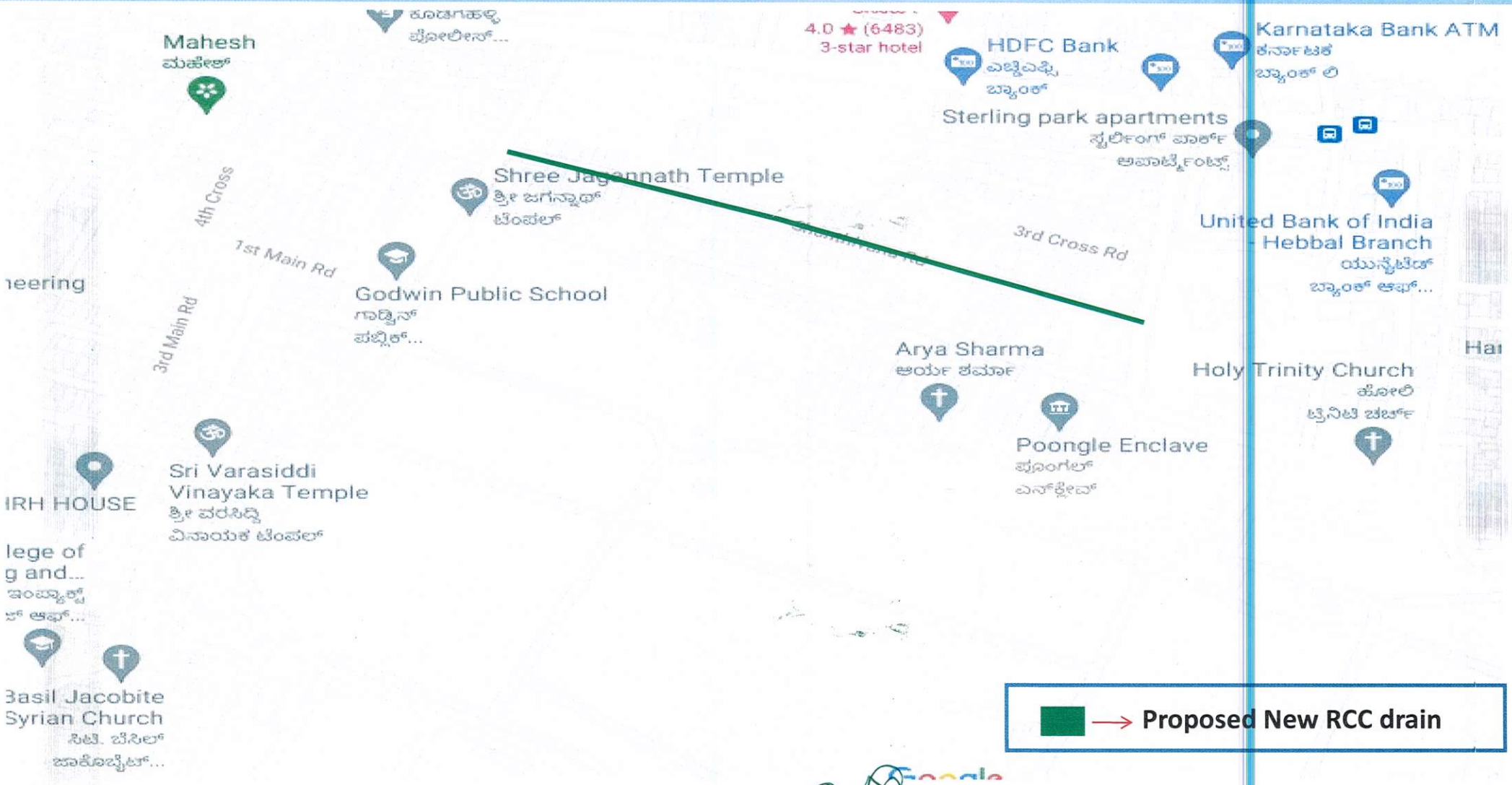
Key Map

Project Name: Improvments Road From NH-7 to Sanjeevininagar up to Hebbal Sarovara Layout in Ward No 07 and Ward No 08 in Kodigehalli Sub division.



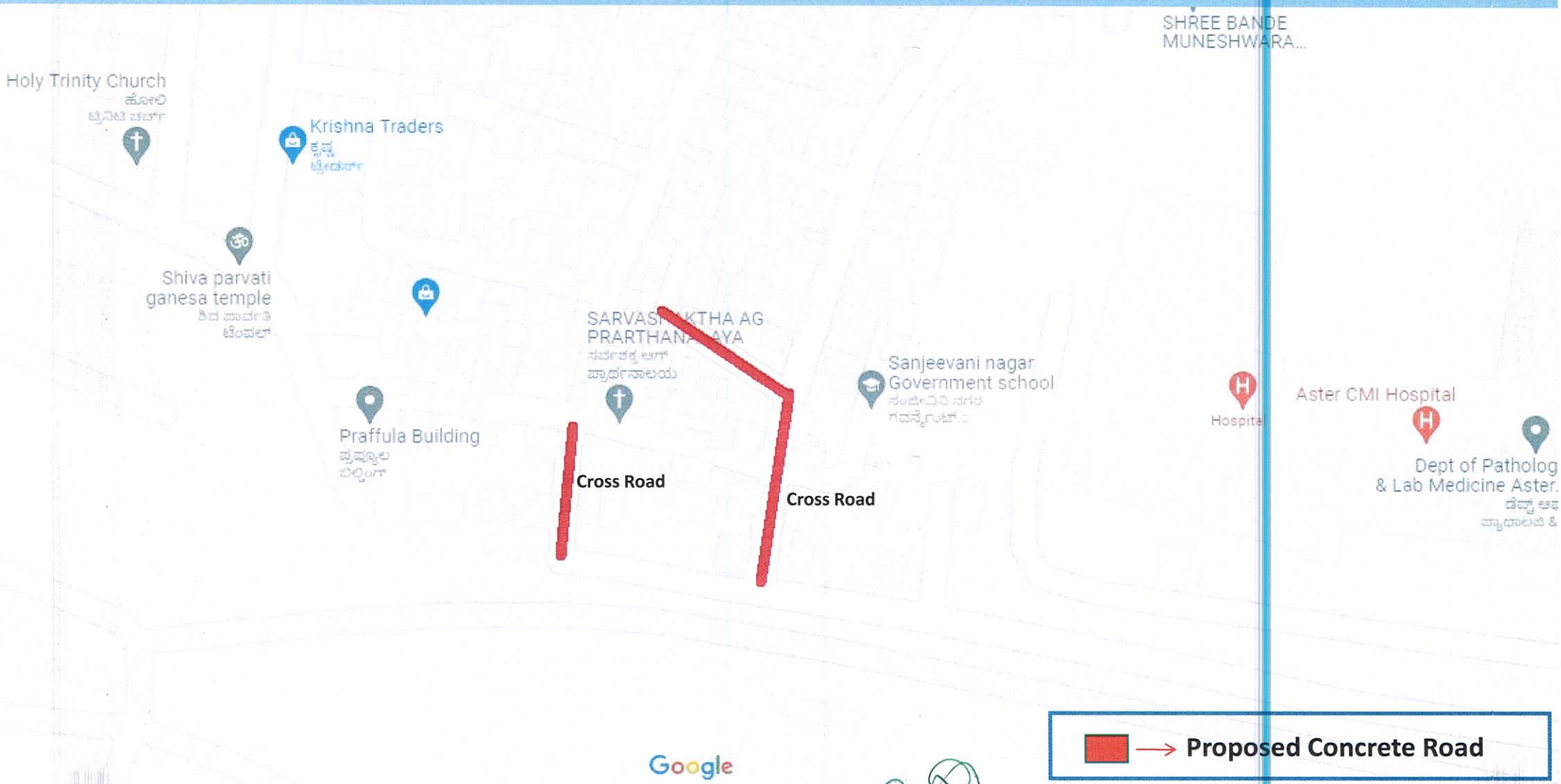
Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Project Name: Improvments Road From NH-7 to Sanjeevininagar up to Hebbal Sarovara Layout in Ward No 07 and Ward No 08 in Kodigehalli Sub division.



Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Project Name: Improvments Road From NH-7 to Sanjeevininagar up to Hebbal Sarovara Layout in Ward No 07 and Ward No 08 in Kodigehalli Sub division.



→ Proposed Concrete Road

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Kodigehalli Sub Division
BBMP, Bangalore

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DRAWINGS

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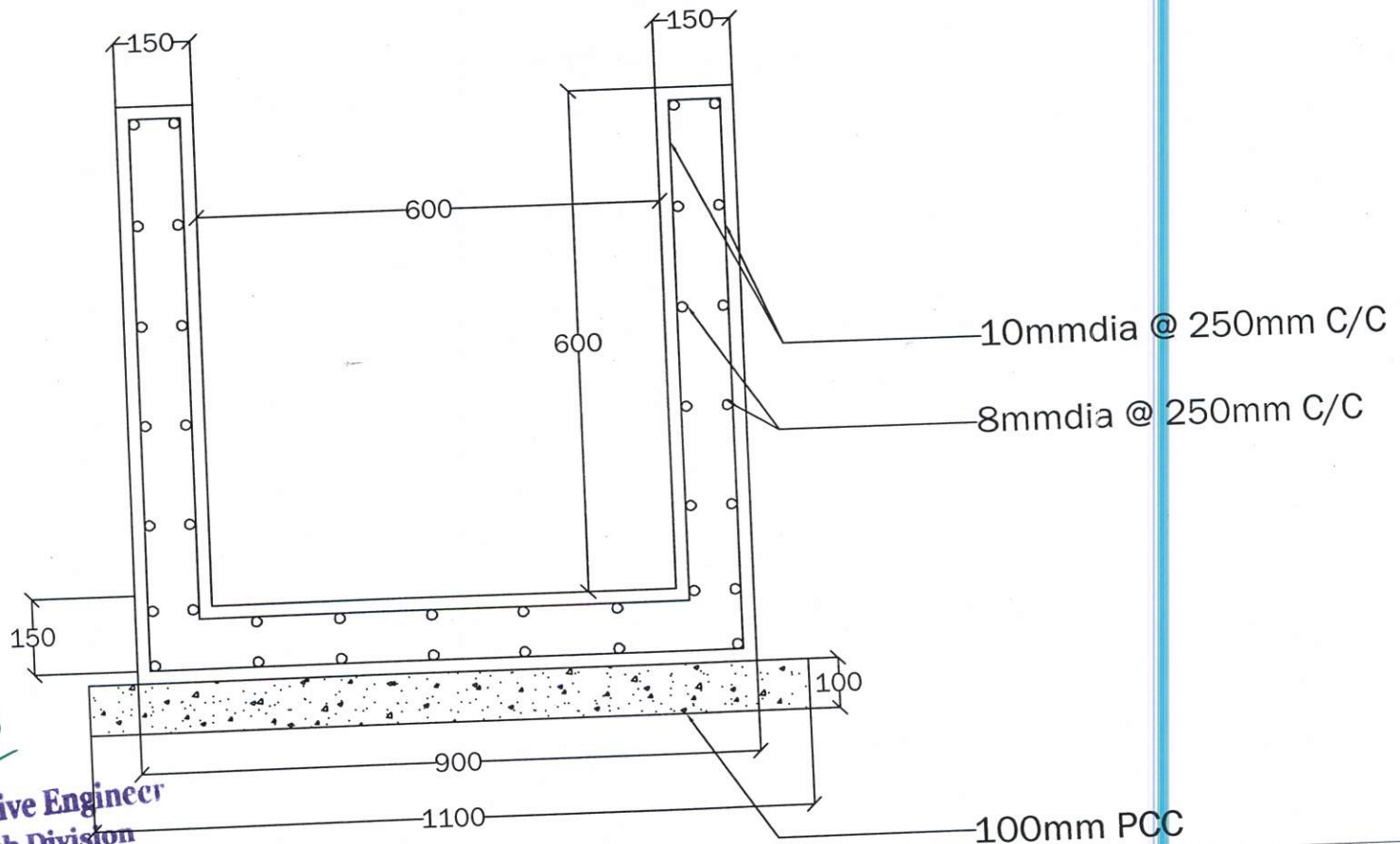
BRUHAT BANGALORE MAHANAGARA PALIKE

Project Name: Improvments Road From NH-7 to Sanjeevininagar up to Hebbal Sarovara Layout in Ward No 07.

and Ward No 08 in Kodigehalli Sub division.



Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

NOTE:-

1. ALL DIMENSION & LEVELS ARE Mts. UNLESS OTHERWISE MENTIONED.

DATE	No. OF PRINTS	PRINTS ISSUED TO	SIGN

DATE	REVISION	DESCRIPTIONS	SIGN

CONSULTANT :

TEJUS CONSULTANTS
No.58 MIG, 6th Cross, 3rd Main
1st Stage, Basaveshwaranagar
Bangalore-560079
TEL: 080 - 23287532
email: tejusconsultants@gmail.com

TITLE:
TYPICAL CROSS SECTION OF RCC DRAIN

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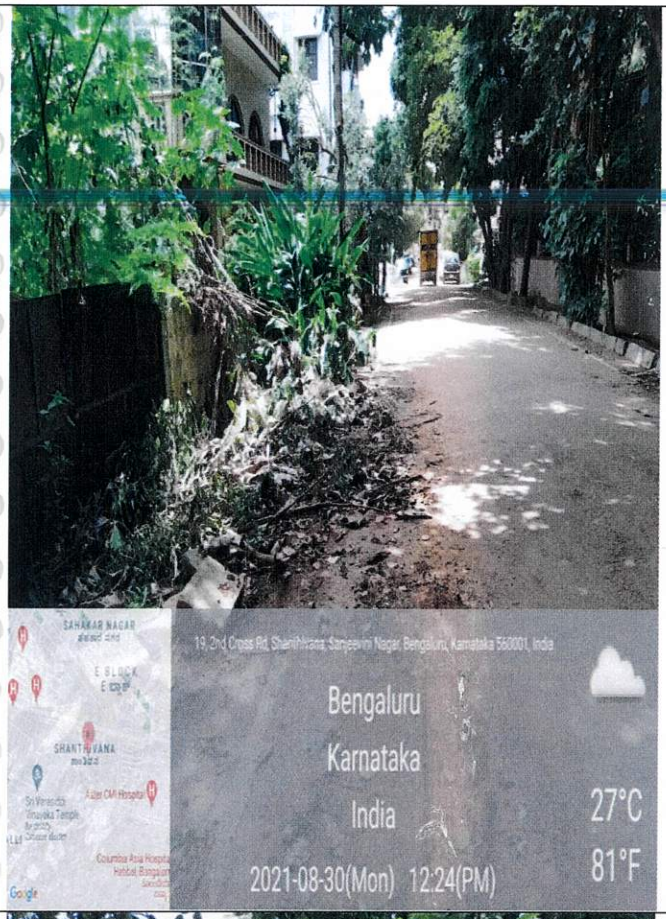
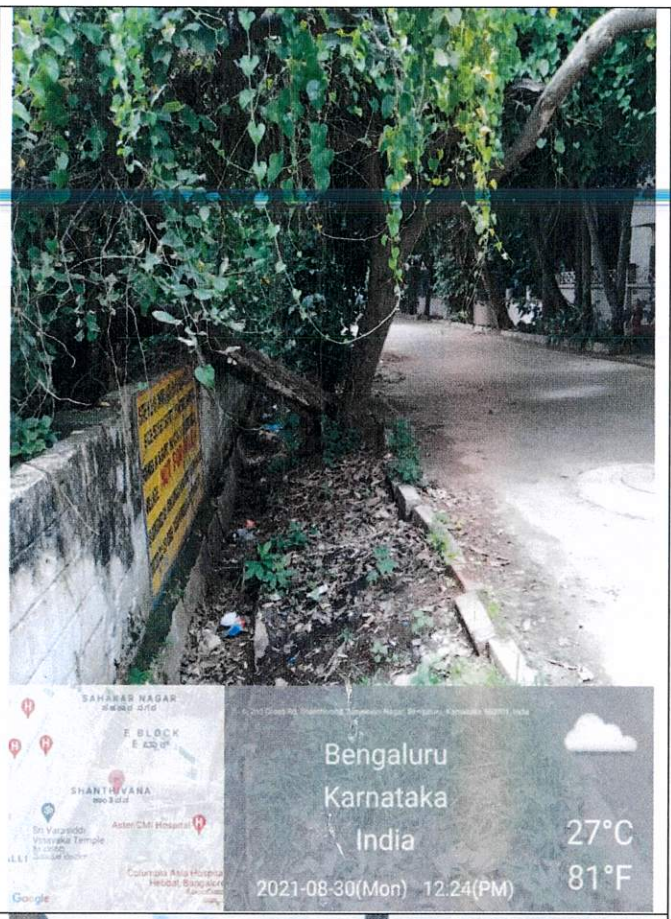
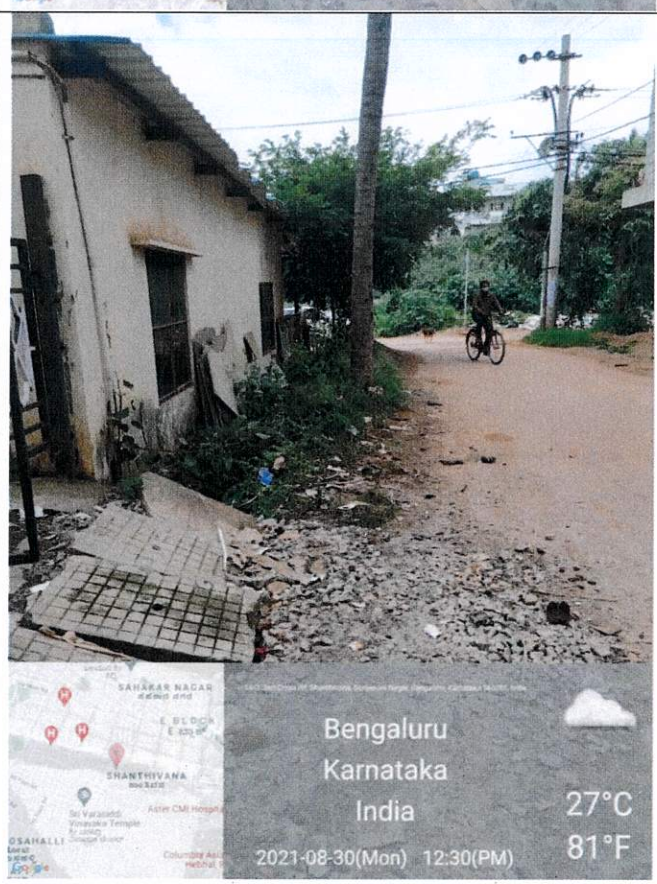
(9)

PHOTO PAGES

Project Name: Improvments Road From NH-7 to Sanjeevininagar up to Hebbal Sarovara Layout in Ward No 07 and Ward No 08 in Kodigehalli Sub division.







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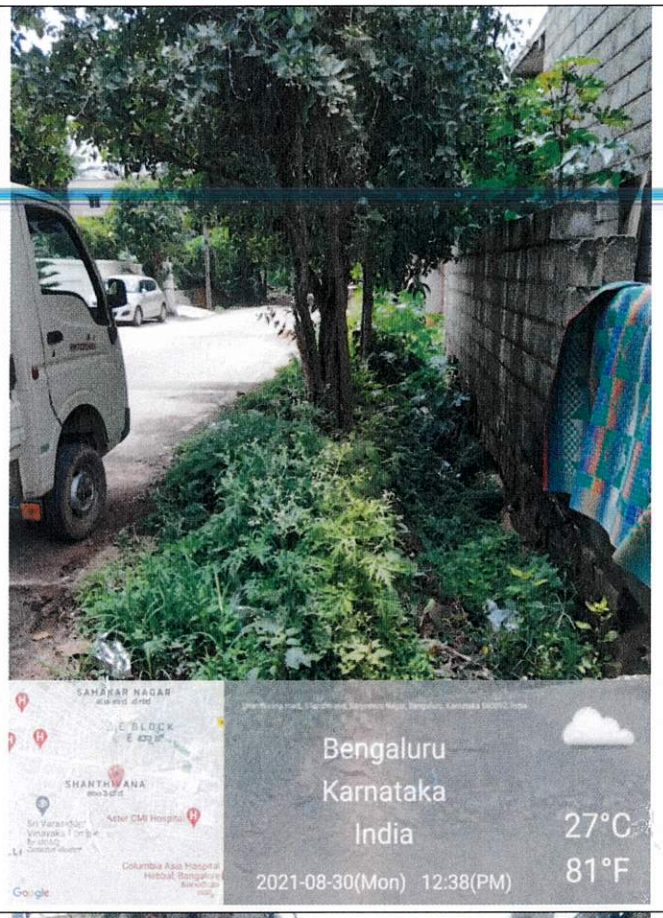
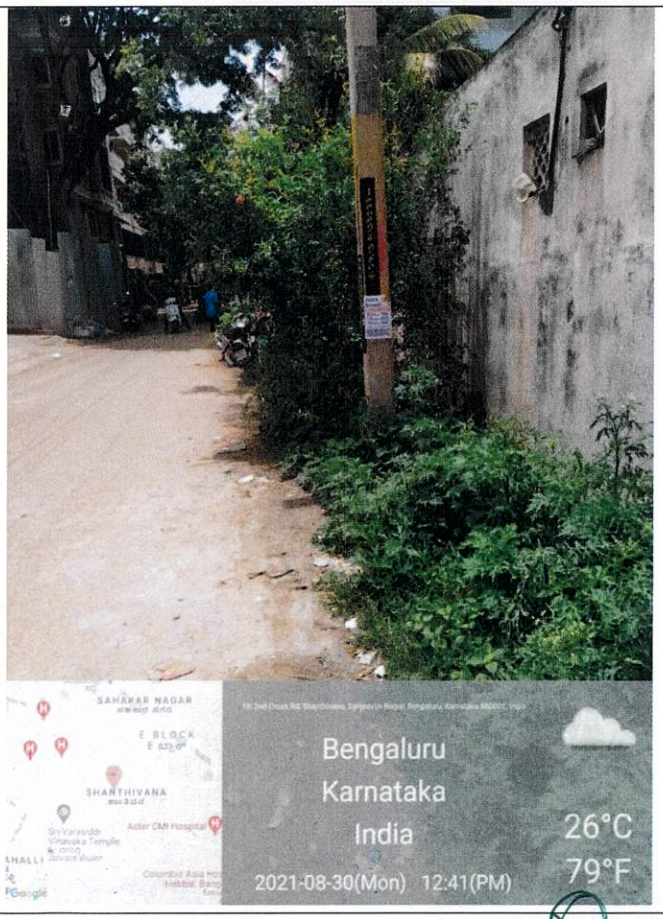
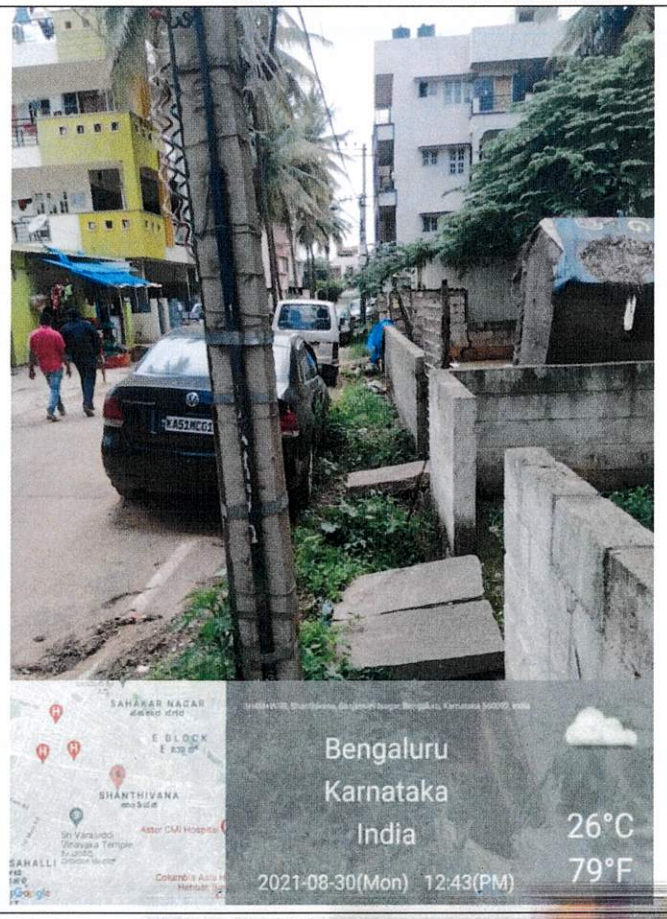
Project Name: Improvments Road From NH-7 to Sanjeevininagar up to Hebbal Sarovara Layout in Ward No 07 and Ward No 08 in Kodigehalli Sub division.



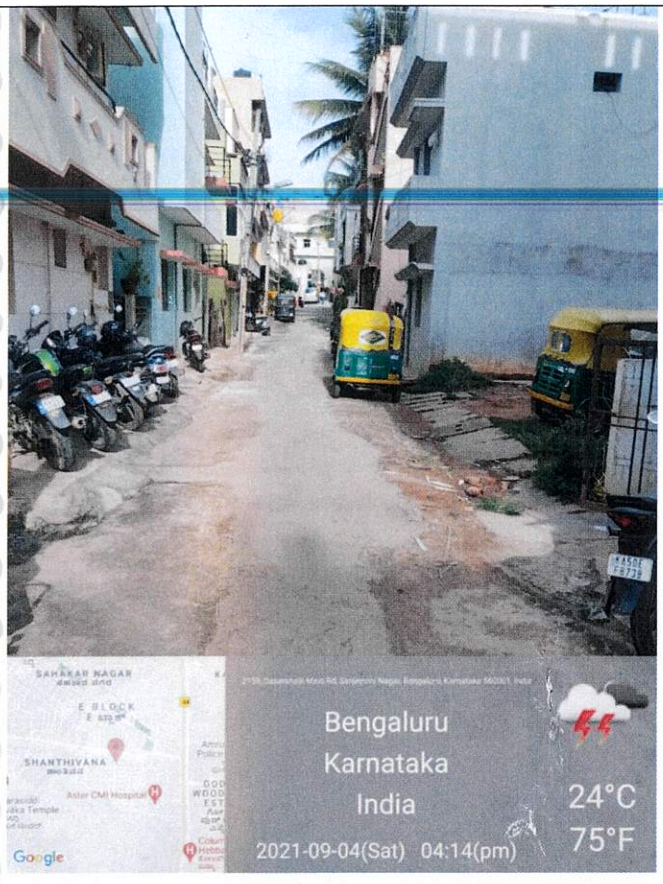


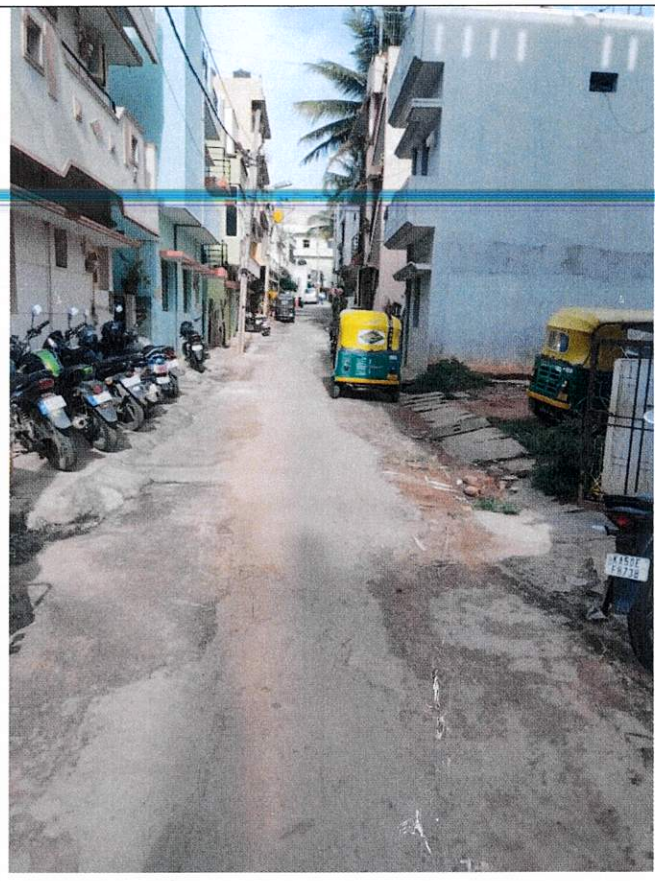


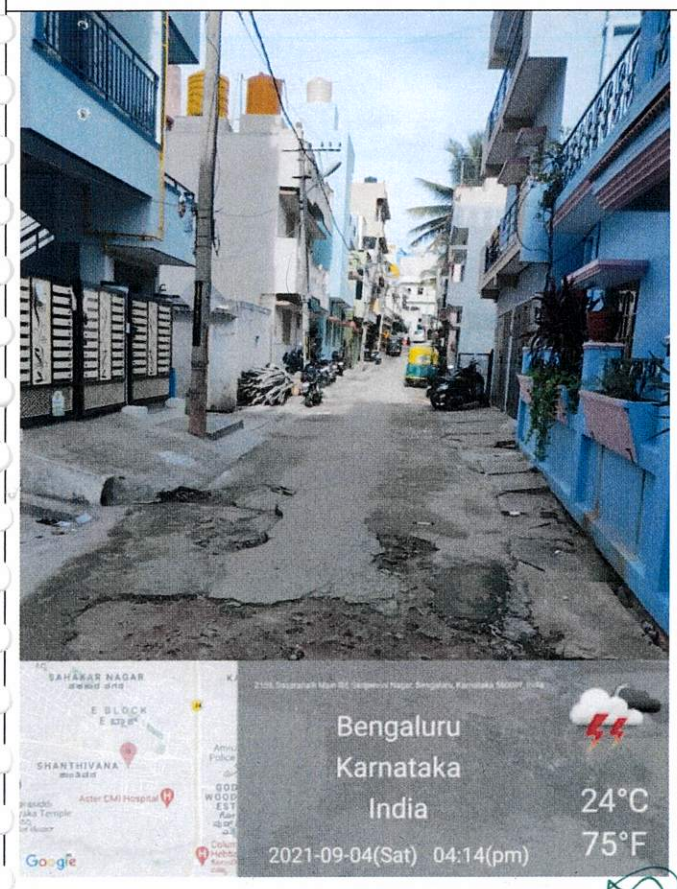
Asstt. E.E
DE(Ast)

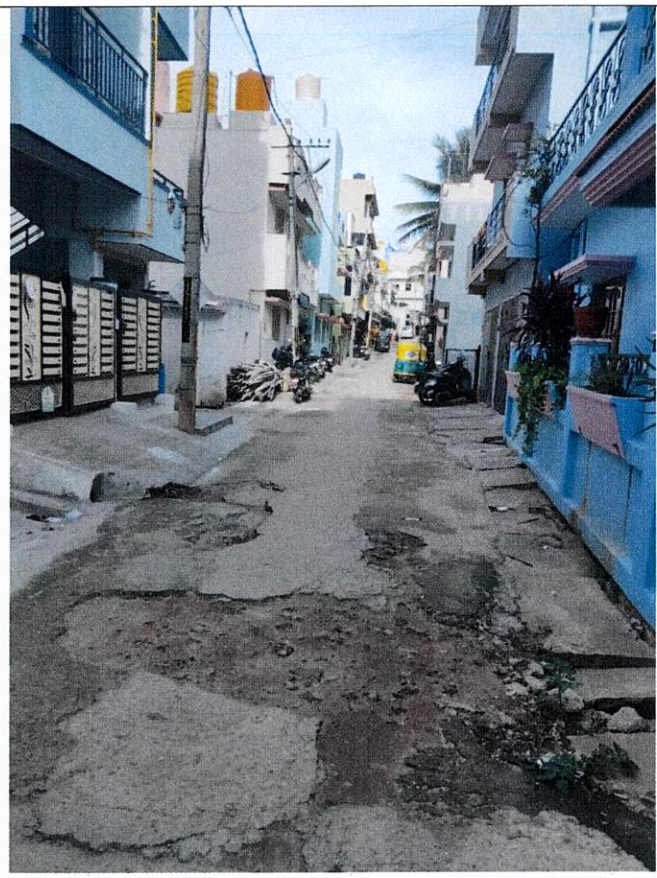
Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Project Name: Improvments Road From NH-7 to Sanjeevininagar up to Hebbal Sarovara Layout in Ward No 07 and Ward No 08 in Kodigehalli Sub division.





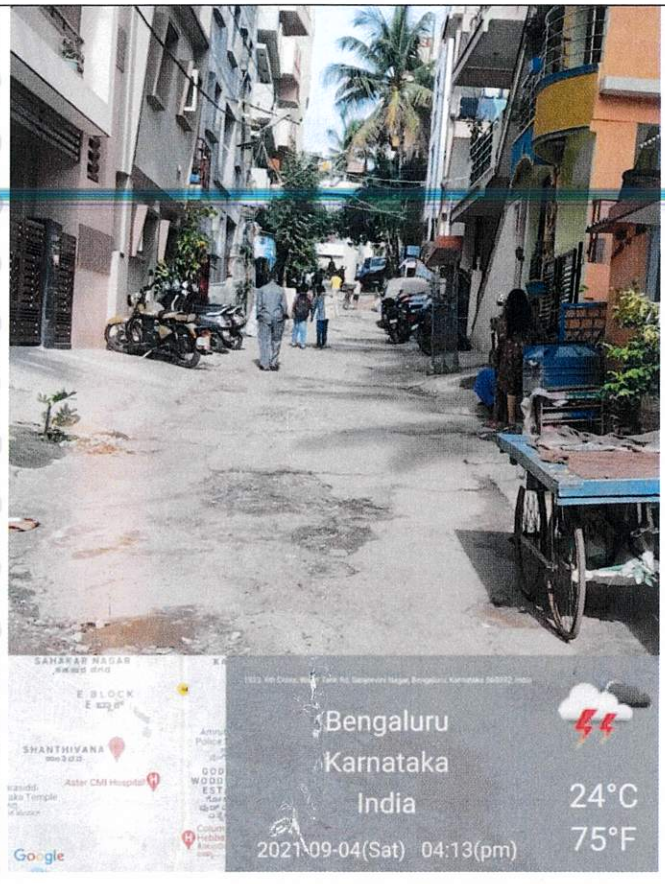


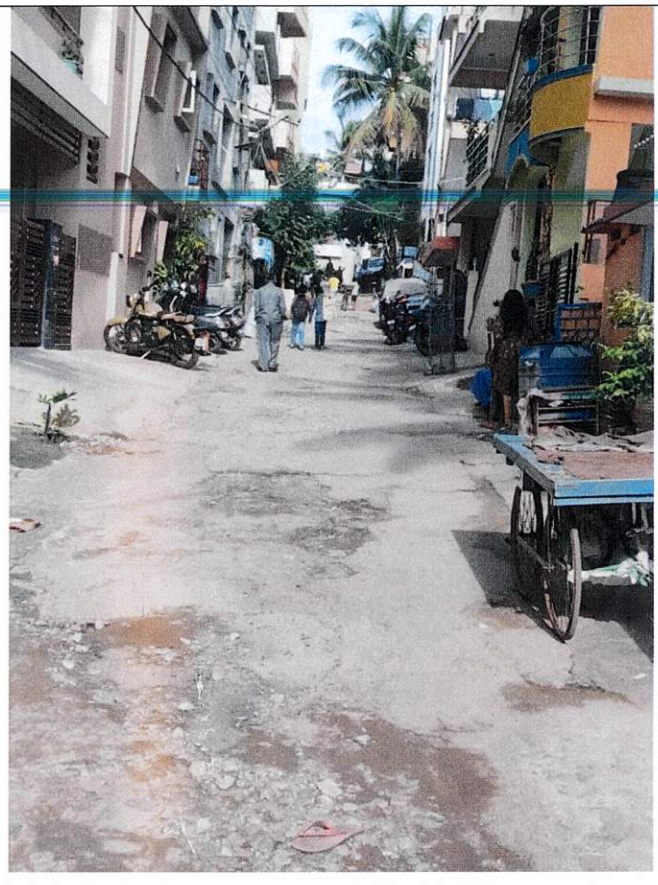


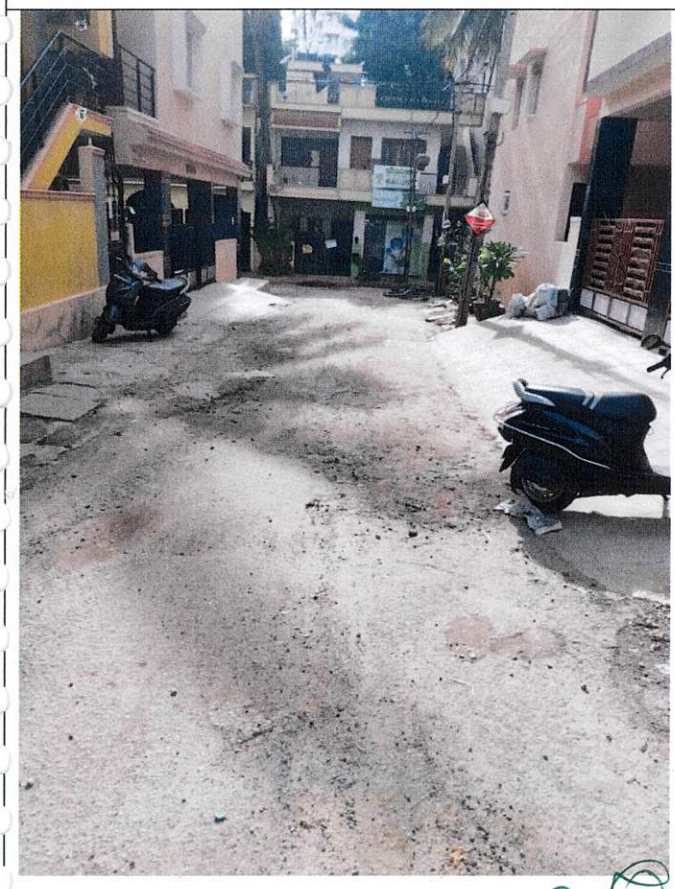
Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

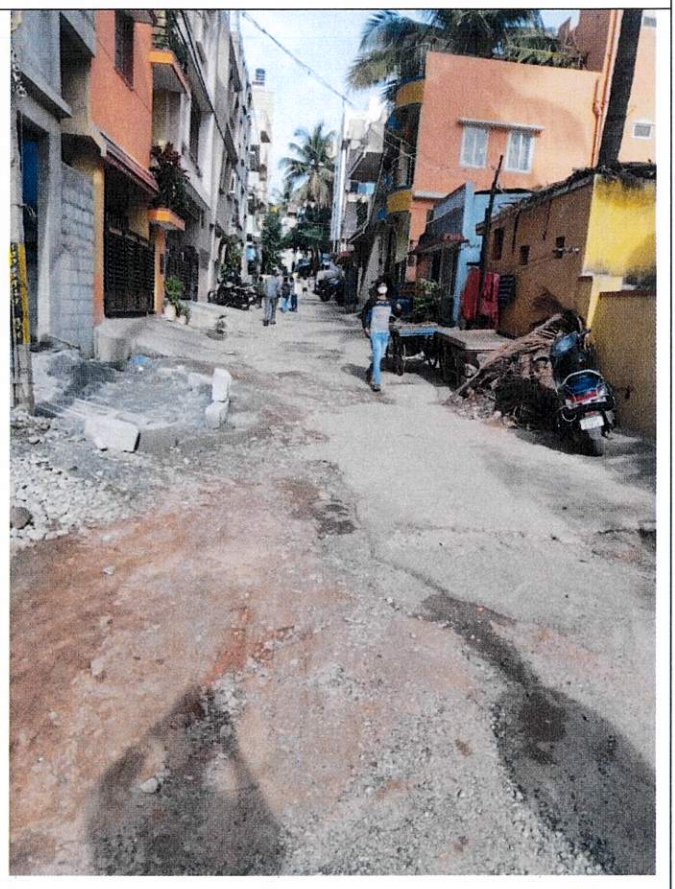
AE(W)

Project Name: Improvments Road From NH-7 to Sanjeevininagar up to Hebbal Sarovara Layout in Ward No 07 and Ward No 08 in Kodigehalli Sub division.









Assistant Executive Engineer
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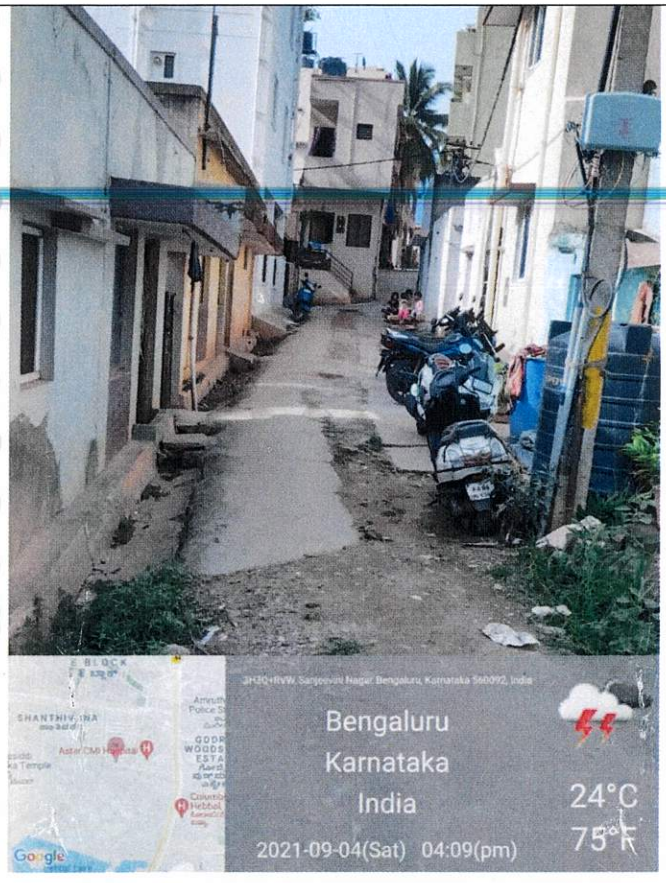
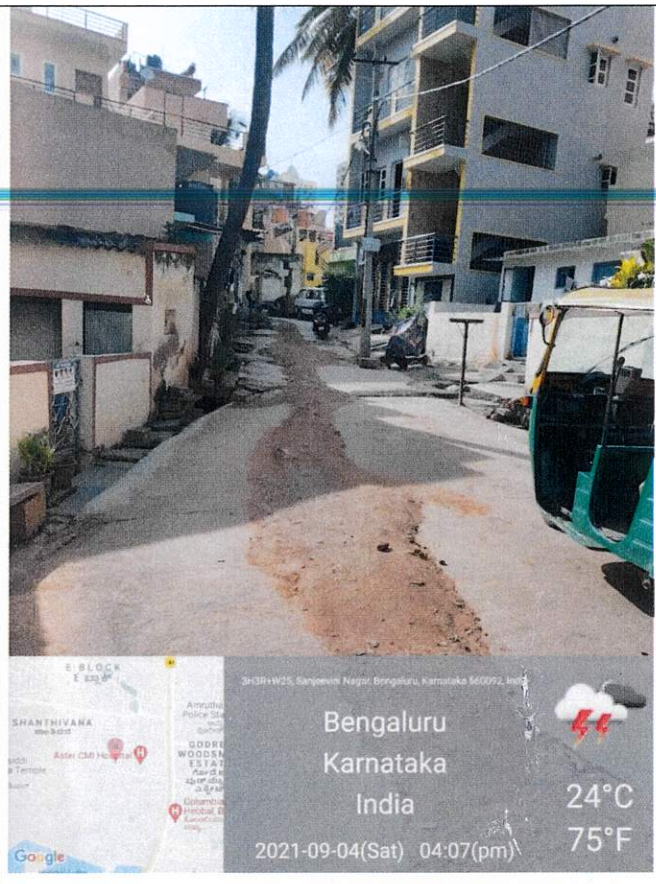
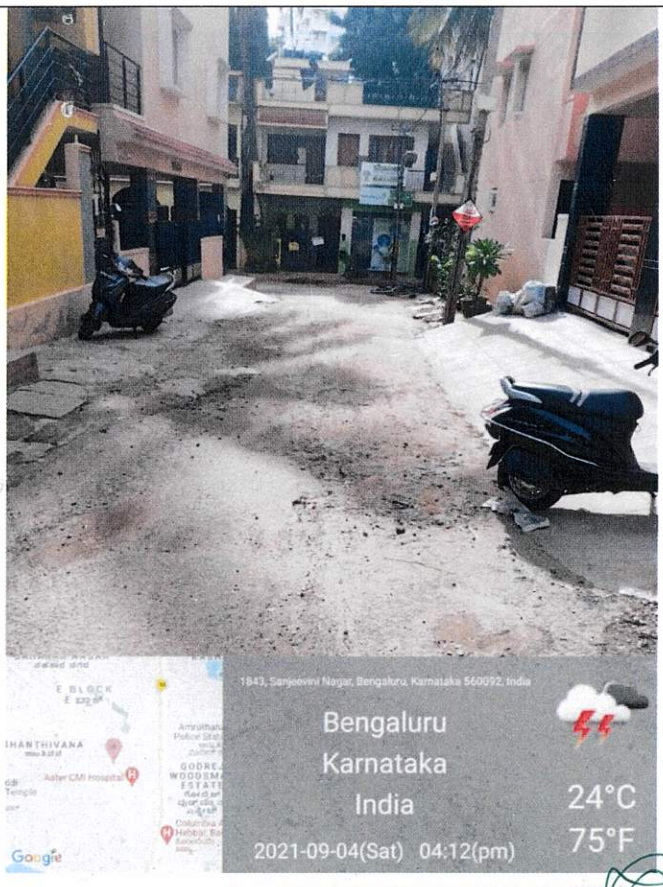
BBMP, Bangalore

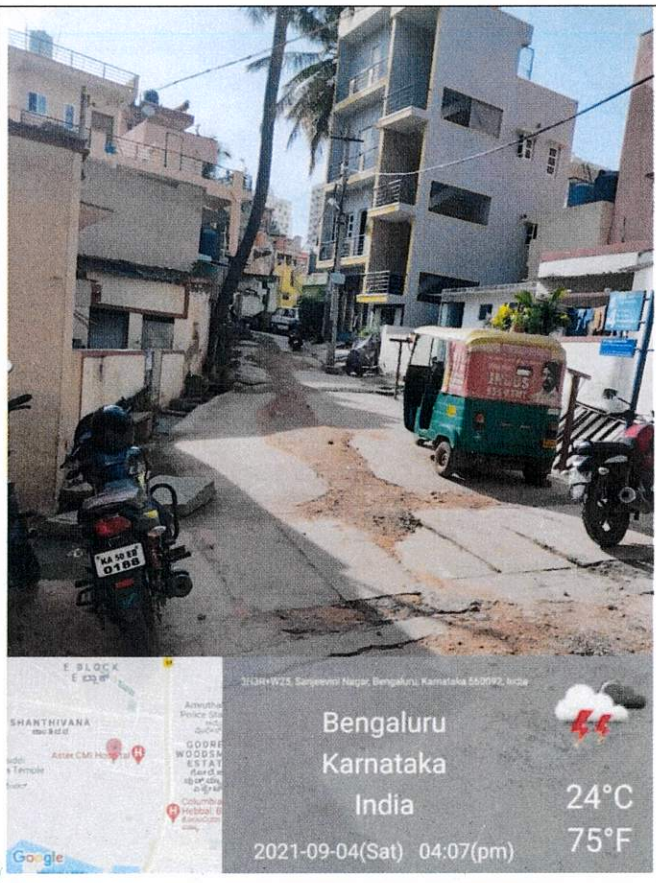
(4)

Project Name: Improvments Road From NH-7 to Sanjeevininagar up to Hebbal Sarovara Layout in Ward No 07 and Ward No 08 in Kodigehalli Sub division.









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